

Patent Claims

428 1. A bristle for a toothbrush, particularly for an electric toothbrush, which is manufactured from a monofilament formed of plastic, **characterized in that** the bristle has
5 at least two zones (6, 7, 17) and at least one point of preferred breaking in its cross section.

2. The bristle as claimed in claim 1, **characterized in that** the zones (6, 7) are comprised of like or different plastic materials and/or of at least one cavity (33, 34) and
10 at least one plastic material.

3. The bristle as claimed in claim 1 ~~or 2~~, **characterized in that** the zones (6, 7) include various filler materials and/or various colors.

4. The bristle as claimed in any one of the claims 1
15 ~~to 3~~, **characterized in that** the zones (17) and/or the at least one point of preferred breaking are manufactured by dividing and subsequently rejoining the mass flow (13) during extrusion of the monofilament.

5. The bristle as claimed in any one of the claims 1
20 ~~to 4~~, **characterized in that** the zones (6, 7; 17) are arranged approximately in mirror symmetry or approximately in point symmetry with the axis of the bristle.

6. The bristle as claimed in any one of the claims 1
25 ~~to 5~~, **characterized in that** the zones (6, 7; 17) occupy approximately equal fractions of the overall cross sectional area.

7. The bristle as claimed in any one of the claims 1 to 6, **characterized in that** the free end of the bristle is preferably split in its longitudinal direction.

8. The bristle as claimed in any one of the claims 1 to 7, **characterized in that** the splitting extends over approximately 10% to approximately 25% of the length of the bristle.

9. The bristle as claimed in any one of the claims 1 to 8, **characterized in that** the bristle has its free end rounded.

10. The bristle as claimed in any one of the claims 1 to 9, **characterized in that** the bristle is made of polyester and/or polyamide.

11. The bristle as claimed in ^{claim 1} ~~any one of the preceding claims,~~ **characterized in that** the diameter of the bristle amounts to between 0.1 mm and 0.25 mm, preferably between 0.15 mm and 0.18 mm.

12. The bristle as claimed in ^{claim 1} ~~any one of the preceding claims,~~ **characterized in that** its cross section takes on essentially the form of a three- or multiple-leaf clover or a three- or multiple-point star.

13. The bristle as claimed in claim 12, **characterized in that** the circumferential surface of the monofilament has a helical structure.

14. The bristle as claimed in ^{claim 1} ~~any one of the preceding claims,~~ **characterized in that** the zones (6, 7, 17) are filled with plastic.

15. A method of manufacturing a bristle for a toothbrush, in particular for an electric toothbrush, in which a monofilament is manufactured from plastic, **characterized in that** the monofilament is manufactured in such a way that is
5 has at least two zones (6, 7, 17) and at least one point of preferred breaking in its cross section.

16. The method as claimed in claim 15, **characterized in that** during extrusion of the monofilament the zones (6, 7) are manufactured from like or different plastic materials
10 and/or from plastic materials and at least one cavity.

17. The method as claimed in claim 15 ~~or 16~~, **characterized in that** the zones (17) are manufactured by dividing (11") and subsequently rejoining (11'') the mass flow during extrusion of the monofilament.

18. The method as claimed in any one of the claims 15
15 ~~to 17~~, **characterized by** twisting the monofilament about its longitudinal axis and fixing it with the aid of in particular chemical agents.

19. The method as claimed in any one of the claims 15
20 ~~to 18~~, **characterized by** splitting the free end of the bristle in the longitudinal direction particularly by subjecting it to mechanical loads.

20. The method as claimed in any one of the claims 15
A ~~to 19~~, **characterized by** rounding the free end of the bristle.

21. The method as claimed in any one of the claims 15
25 ~~to 20~~, **characterized by** splitting the free end of the bristle open by the rounding operation.

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22. The method as claimed in any one of the claims 15
A ~~to 21, characterized by~~ drawing the monofilament (42) for
twisting from a rotating central reel (41).

23. The method as claimed in any one of the claims 15
A 5 ~~to 22, characterized by~~ drawing the monofilament (42) for
twisting from a stationary central reel by means of a rotat-
ing nozzle.

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